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WRITTEN OPINION  
OF THE INTERNATIONAL SEARCHING AUTHORITY  
(SUPPLEMENTARY SHEET)

International  
File No.  
PCT/DE2004/002816

In this written opinion of the International Searching  
Authority, reference is made to the following document (D):

D1: EP-A-0 872 752

1. Objections under Article 6, PCT (Clarity)

1.1 As an independent device claim, Claim 1 should state the subject matter of the request for protection via structural features of the device for which protection is requested (see Rule 6.3 a), PCT). In the present case, when reduced to this structural feature independent Claim 1 reads as follows: "Optical imaging system comprising a system of optical components characterized by a mirror." The features "for generating an image of a surface of an object for an optical surface measurement thereof, the system is designed for measuring outer surfaces" and "the mirror in measuring mode captures the portion of the beam emitted from the radially symmetrical region of the surface to be measured and supplies same to additional imaging components in the system for processing the image" are purely functional features, and signify only that the claimed device should be suitable for this purpose.

The features "the object is a component" and "the surface emits light which is radially symmetrical, at least in part, the surface normal of the radially symmetrical region in the measuring position of the component being inclined at a maximum angle of 90° with respect to the component axis" concern only the object itself, and must be disregarded for substantive examination of the claim. For these reasons, independent Claim 1 is unnecessarily

verbose and therefore does not meet the requirements of Article 6, PCT, that claims be written clearly and concisely.

- 1.2 Claim 10 refers to, among other things, preceding Claims 4 and 5. The subject matter of the latter claims, however, necessarily includes a reflecting optical element (3) provided downstream from the mirror (2). Because Claim 10 replaces precisely this downstream reflecting optical element (3) by a transmissive optical element provided directly downstream, this results in a contradiction, and Claim 10 is not clear.

## 2. Objections under Article 33 82) [sic; (2)], PCT (Novelty)

- 2.1 Document D1 (see in particular column 4, lines 23 through 41, and Figure 1) describes an optical imaging system (1, 2, 14, 4) which includes a system of optical components (1, 2, 14, 4) for generating an image of a surface of an object (a planet, for example) which emits light which is radially symmetrical, at least in part, for an optical measurement thereof, the surface normal of the radially symmetrical region in the measuring position of the object being inclined at a maximum angle of  $90^\circ$  with respect to the object axis. The system (1, 2, 14, 4) is designed for measuring outer surfaces, and has a mirror (1) which may be associated with the object and which in measuring mode captures the portion of the beam emitted from the radially symmetrical region of the surface to be measured and supplies same to additional imaging components (2, 14, 4) in the system for processing the image. For these reasons, the subject matter of independent Claim 1 is anticipated by Document D1 and therefore is not novel.

2.2 The features of Claims 2 through 4, 6 through 8, and 10 are likewise known from Document D1, and therefore contribute nothing novel to the subject matter of independent Claim 1.

Claims 2 through 4: see Figure 1;

Claims 6 and 8: see column 1, lines 3 through 14;

Claim 7: see column 4, lines 48 through 51;

Claim 10: see Figure 1; in this case the convex mirror 2 forms the mirror which may be assigned, and the transmissive element is the optical element 14.

### 3. Objections under Article 33(3), PCT (Inventive Step)

3.1 The provision of a lens in a beam path, for example for generating an intermediate image, is a common measure in the art which is not based on inventive step.

Consequently, the features of Claims 5 and 9 contribute nothing inventive to the subject matter of the claims which precede them.

### 4. Industrial applicability (Article 33 (4), PCT)

4.1 The claimed subject matter may be used for the surface inspection of components.

### 5. Additional remarks

5.1 Document WO 02/14858 cited on page 1 relates to a molecular library, not an imaging system. The applicant is requested to cite the correct patent number.

5.2 None of the X documents cited in the Search Report is referenced in the introductory description, nor has the related art contained therein been briefly summarized (Rule 5.1 a) ii), PCT).